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Vocal patterns in schizophrenia: toward a cumulative approach

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Abstract

Voice atypicalities are a characteristic feature of schizophrenia, often associated with core negative symptoms. A recent meta-analysis identified atypicalities in pitch, speech rate, and pauses. However, heterogeneity across studies was large and replications almost nonexistent. Further, it is not clear whether vocal patterns are directly related to the mechanisms underlying the disorder and could therefore be found across languages, or not. In this study we implemented a more rigorously cumulative scientific approach by collecting and analyzing a large cross-linguistic corpus of voice recordings. We critically employed meta-analytic priors to systematically assess the replicability of previous findings, and modeled between-participants variability and cross-linguistic differences. We replicate previous meta-analytic findings across all languages for reduced pitch variability, while increased pause duration and lower speech rate results were replicated only in some languages. Most atypical voice patterns, thus, seem not to be distinctive of schizophrenia in general, but more specifically situated in linguistic/cultural differences.